

Patent Claims

*Sub 1*

1. A vessel for withdrawing blood, containing an aqueous solution with the following components:
  - a guanidinium salt;
  - a buffer substance;
  - a reducing agent; and/or
  - a detergent.
2. The vessel according to claim 1, characterized in that the guanidinium salt is selected from guanidinium thiocyanate and guanidinium chloride.

*Sub 2*

3. The vessel according to any one of claims 1 or 2, characterized in that the guanidinium salt is present at a concentration of 1 to 8.0 M, preferably 2.5 to 8.0 M.

*Sub 3*

4. The vessel according to any one of claims 1 to 3, characterized in that the buffer substance is selected from Tris, HEPES, MOPS, citrate and phosphate buffer.

*Sub 4*

5. The vessel according to any one of claims 1 to 4, characterized in that the buffer substance is present in a concentration of 10 to 300 mM.

*Sub 5*

6. The vessel according to any one of claims 1 to 5, characterized in that the detergent is selected from Triton-X-100, NP-40, polydocanol and Tween 20.

*Sub 6*

7. The vessel according to any one of claims 1 to 6, characterized in that the detergent is present in a concentration of 5 to 30% by wt.

*claim 1*

8. The vessel according to any one of claims 1 to 7, characterized in that the reducing agent is selected from dithiothreitol,  $\beta$ -mercaptoethanol and TCEP.

*claim 1*

9. The vessel according to any one of claims 1 to 8, characterized in that the reducing agent is present in a concentration of 0.1 to 10% by wt.

*Sub 23* *claim 1*

10. The vessel according to any one of claims 1 to 9, characterized in that the pH of the solution is between 4.0 and 7.5, preferably between 4.0 and 6.5.

*claim 1*

11. The vessel according to any one of claims 1 to 10, characterized in that the solution contains the following components:

- 4 m guanidinium thiocyanate;
- 45 mM Tris/HCl;
- 15% (w/v) Triton-X-100;
- 0.8% (w/v) DTT,

wherein the pH is at 6.0.

*claim 1*

12. The vessel according to any one of claims 1 to 11, characterized in that it has a vacuum in the chamber which is provided for receiving blood.

*claim 1*

13. The vessel according to any one of claims 1 to 12, characterized in that it contains withdrawn blood.

*Sub 25* *claim 1*

14. A method of withdrawing blood, comprising the steps of directly introducing the blood into a vessel according to any one of claims 1 to 13.

15. The method according to claim 14, characterized in that an amount of blood is withdrawn that is 0.1 to 4 times the volume of the solution in the vessel.

~~Subj 16.~~ The method according to claim 15, characterized in that the final concentration of the guanidinium salt after blood supply is between 1.0 M and 5 M, preferably 1.5 and 5 M.

17. A method for stabilizing and/or isolating nucleic acids from blood, comprising the step of introducing blood into a vessel according to ~~any one of claims 1 to 13~~ and, optionally, isolating the nucleic acids with conventional methods. *Claim 1*

~~Subj 18.~~ The method according to claim 14, characterized in that the pH of the solution is adjusted such that following the addition of the sample material a pH between 4.0 and 7.5 is obtained.

19. Use of the vessel according to ~~any one of claims 1 to 13~~ for withdrawing blood, preferably from humans. *Claim 1*

20. Use of a solution containing a guanidinium salt, a buffer substance, a detergent and/or a reducing agent in a vessel for withdrawing blood.

21. A stabilized blood sample obtainable by introducing whole blood into a vessel according to any one of claims 1 to 13.

22. The blood sample according to claim 21, characterized in that it has a pH of 4.0 to 7.5, preferably 6.6 to 7.0. *24*

23. The blood sample according to claim 21 or 22, characterized in that it is derived from human blood. *24*

*add D1 > add D4 > add D7 > add D10 >*